DELAWARE HEALTH AND SOCIAL SERVICES
Division of Public Health

Frequently Asked Questions

BENZENE

What is BENZENE?

Benzene is a clear liquid with a sweet odor. It vaporizes easily. Benzene is naturally occurring and can be found in air, water and soil. Yet it is also found in the environment due to human activities.

Where can benzene be found and how is it used?

When volcanoes and forest fires erupt, benzene is produced. Benzene is also found in crude oil and gasoline, as well as in car exhaust. Other petroleum-based products using benzene are Styrofoam, plastics, nylon, rubber, lubricants, dyes and pesticides. Manufacturers emit benzene during production. Tobacco smoke is a major source of benzene in indoor air.

How can people be exposed to benzene?

You could be exposed to benzene through:

Breathing vapors if you work where benzene is used or produced. You can also breathe benzene vapors from tobacco smoke, car exhaust, gasoline fumes and factory releases. When benzene moves from soil or water into the air, you can also breathe it.

Drinking water containing benzene. This is a less common way of being exposed. Benzene can enter water and soil from leaking underground storage tanks.

How does benzene work and how can it affect my health?

Workers who breathed benzene in high amounts experienced dizziness, sleepiness, lightheadedness and feeling confused. Some had an irregular heartbeat, headache, upset stomach or irritation of the eyes, skin, nose and throat.

Long-term exposure to benzene can result in bone marrow damage. It can also cause aplastic anemia, a condition where not enough red blood cells are produced. Aplastic anemia can progress to a form of cancer called myelogenous leukemia. Benzene has been named as a cancer-causing substance.

The short-term effects of drinking large amounts of benzene are very much like the effects of breathing it, except without irritation to the eyes, skin or lungs. Long-term effects of drinking low levels of benzene are not fully known. Ingesting benzene from drinking water is treated as a cancer risk.

How is benzene poisoning treated?

There is no treatment just for benzene poisoning. A doctor will treat symptoms depending on the exposure.

What should I do if exposed to benzene?

If benzene gets on your skin, remove contaminated clothing and wash thoroughly with soap and water. Get medical help.

If you get benzene in your eyes, flush with large amounts of water for 15 minutes. Get medical help quickly.

If you breathe benzene, move to fresh air. Get medical help quickly.

If you swallow benzene, get medical help right away.

What factors limit use or exposure to benzene?

At work, exposure can be reduced by following health and safety rules and using respirators and other personal protective equipment. Limit contact with gasoline and cigarette smoke. Families are encouraged not to smoke or allow smoking in their house, in enclosed environments such as their vehicles, or near their children.

Is there a medical test to show whether I've been exposed to benzene?

Benzene can be measured in the breath and in the blood.

Technical information for benzene

CAS Number: 71-43-2

Chemical Formula: C_6H_6

Carcinogenicity (EPA): A – Human Carcinogen

MCL (Drinking Water): 5 ppb

OSHA Standards: 1 ppm (8-hour time-weighted average)

NIOSH Standards: 0.1 ppm (8-hour time-weighted average); 15 Min Short-Term Exposure Limit: 1 ppm

ACGIH: 8 hr. Time Weighted Avg. (TWA): 0.5 ppm

References and Sources

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